

AMENDMENT TO THE CLAIMS

1. (Canceled)

2. (Canceled)

3. (Currently Amended) ~~The liquid processing apparatus according to claim 2,~~

A liquid processing apparatus, comprising:

a liquid processing section for performing a liquid processing by supplying a predetermined process liquid to a target object while rotating the target object; and

a housing for housing said liquid processing section;

wherein said housing has a hermetic structure thereby to be substantially shielded from the outside,

wherein said liquid processing section includes

holding means for holding said target object,

a process chamber for housing said holding means, and

a process liquid supply nozzle for supplying a predetermined process liquid to said target object held by said holding means and,

wherein said process chamber is slidable between a process position and a retreat position.

4. (Currently Amended) The liquid processing apparatus according to claim 2 3, wherein said process chamber is of a double wall structure comprising an inside chamber and an outside chamber.

5. (Currently Amended) The liquid processing apparatus according to claim 2 3, wherein said housing includes a target object delivery mechanism which is movable in the vertical direction thereby to deliver said target object to and receive said target object from said holding means.

6. (Currently Amended) The liquid processing apparatus according to claim 5, further comprising:

a container delivery section for delivering a container capable of housing said target object; and

a transfer mechanism for transferring said target object between said container delivery section and said target object delivery mechanism,

wherein said housing includes:

an open portion for delivering said target object to and from said container delivery section; and

a shutter for opening/closing said open portion, and

wherein said housing forms a hermetic structure under the state that said open portion is closed by said shutter thereby to be substantially shielded from the outside.

7. (Original) The liquid processing apparatus according to claim 5, further comprising:

a container delivery section for performing the delivery of a container capable of housing said target object;

a container relay section in which is arranged a first container transfer mechanism interposed between said housing and said container delivery section for transferring said container to and from said housing;

an open portion for the transfer of the container, said open portion being formed in a partition wall formed between said liquid processing chamber and said container relay chamber for transferring the container between the liquid processing chamber and the container relay chamber;

a shutter for hermetically closing said open portion for transferring said container; and
a second container transfer mechanism for transferring said container between said first container transfer mechanism and said container delivery section,

wherein said housing forms a hermetic structure under the state that said shutter is closed thereby to be substantially shielded from the outside.

8. (Currently Amended) The liquid processing apparatus according to claim 2 3, further comprising:

an another housing positioned below said housing and including a target object delivery mechanism which is driven in the vertical direction thereby to deliver said target object to and from said holding means;

a first open portion formed in a partition wall arranged between said housing and said another housing for transferring said target object; and

a first shutter for opening/closing said first open portion,

wherein said housing forms a hermetic structure under the state that said first open portion is closed by said first shutter thereby to be substantially shielded from the outside.

9. (Original) The liquid processing apparatus according to claim 8, further comprising:

a container delivery section for delivering a container capable of housing said target object; and

a container transfer mechanism for transferring said container between said container delivery section and said another housing,

wherein said another housing includes:

a second open portion for delivering said container to and from said container delivery section; and

a second shutter for opening/closing said second open portion,

wherein each of said housing and said another housing forms a hermetic structure under the state that said first open portion is closed by said first shutter and said second open portion is closed by said second shutter thereby to be substantially shielded from the outside.

10. (Original) The liquid processing apparatus according to claim 8, further comprising:

a container delivery section for delivering a container capable of housing said target object;

a container relay section including a first container transfer mechanism for delivering said target object to and from said target object delivery mechanism, said first container transfer mechanism being interposed between said target object waiting chamber and said container delivery section;

a second container transfer mechanism for transferring said container between said first container transfer mechanism and said container delivery section; and

an open portion for transferring said container, said open portion being formed in a partition wall arranged between said housing and said container relay section for transferring said container between said another housing and said container relay section,

wherein each of said housing and said another housing forms a hermetic structure under the state that said first open portion is closed by said first shutter and said second open portion is closed by said second shutter thereby to be substantially shielded from the outside.

11. (Currently Amended) The liquid processing apparatus according to claim 1 ~~3~~, wherein said housing includes:

a filter fan unit for blowing a clean air into said housing; and

an exhaust mechanism for exhausting said housing thereby controlling the atmosphere within said housing.

12. (Currently Amended) The liquid processing apparatus according to claim 1 ~~3~~, wherein said housing includes:

a fire detecting sensor for detecting a fire; and

a fire extinguishing apparatus for dispersing a fire extinguishing material within said housing upon receipt of a signal generated from said fire detecting sensor.

13. (Canceled)

14. (Currently Amended) The liquid processing apparatus according to claim ~~13~~ 18, wherein it is possible to gain access to said liquid processing mechanism in two directions of its side wall and its front wall.

15. (Currently Amended) The liquid processing apparatus according to claim ~~13~~ 18, wherein said cylindrical process chamber includes:

a front wall having an opening; and

a member for closing said opening,

wherein it is possible to gain access to said liquid processing mechanism from said opening by moving said member.

16. (Currently Amended) ~~The liquid processing apparatus according to claim 13,~~

A liquid processing apparatus for applying a predetermined liquid processing to a target object to be processed, comprising:

a cylindrical process chamber for housing the target object; and

a liquid processing mechanism for performing a liquid processing by supplying a predetermined process liquid to said target object while rotating the target object housed in the process chamber,

wherein it is possible to gain access to the liquid processing mechanism from at least its side wall, and

wherein said process chamber is slidable between a process position and a retreat position, and it is possible to gain access to said liquid processing mechanism from its side surface by positioning said process chamber in said retreat position.

17. (Original) The liquid processing apparatus according to claim 16, wherein said process chamber is of a double wall structure including an outside chamber and an inside chamber.

18. (Currently Amended) ~~The liquid processing apparatus according to claim 13,~~

A liquid processing apparatus for applying a predetermined liquid processing to a target object to be processed, comprising:

a cylindrical process chamber for housing the target object; and

a liquid processing mechanism for performing a liquid processing by supplying a predetermined process liquid to said target object while rotating the target object housed in the process chamber,

wherein:

said cylindrical process chamber and said liquid processing mechanism are arranged within a casing;

at least one side wall panel forming said casing and positioned to face the side surface of said cylindrical process chamber includes a window portion or detachable side wall panel; and

it is possible to gain access to said liquid processing mechanism from said side surface by detaching said side wall panel or by opening said window portion.

19. (Currently Amended) A liquid processing apparatus for applying a predetermined liquid processing to a target object to be processed, comprising:

a liquid processing section including a cylindrical process chamber for housing said target object and a liquid processing mechanism for performing a liquid processing by supplying a process liquid to said target object while rotating said target object;

a container delivery section for delivering a container capable of housing said target object;

a transfer mechanism for transferring said target object between said container delivery section and said liquid processing section; and

a detachable panel between said container delivery section and said liquid processing section;

wherein it is possible to gain access to the liquid processing mechanism from ~~the~~ a sideward direction of said process chamber and from the direction of said container delivery section by detaching said detachable panel.

20. (Currently Amended) The liquid processing apparatus according to claim 19, wherein said liquid processing section further includes a front wall having a an opening and a member for closing said opening, and wherein it is possible to gain access to the inner region of said cylindrical process chamber and to said liquid processing section from said opening by detaching said detachable panel and moving said member.

21. (Original) The liquid processing apparatus according to claim 19, further comprising:

a target object delivery section including a target object delivery mechanism positioned below said liquid processing section and driven in the vertical direction for delivering said target object to and from said liquid processing mechanism;

a container delivery section for delivering a container capable of housing said target object;

a container relay section including a first container transfer mechanism for delivering said container to and from said target object delivery mechanism, said first container transfer mechanism being interposed between said target object delivery section and said container delivery section; and

a second container transfer mechanism for transferring said container between said container relay section and said container delivery section.

22. (Original) The liquid processing apparatus according to claim 19, wherein:

said cylindrical process chamber is slidable between a process position and a retreat position; and

a slide mechanism for sliding said cylindrical process chamber is joined to said cylindrical process chamber by a screw, a pin or engagement thereby allowing said process chamber to be attached to or detached from said slide mechanism.

23. (New) The liquid processing apparatus according to claim 3, further comprising a rotating mechanism for said holding means.

24. (New) The liquid processing apparatus according to claim 8, further comprising a rotating mechanism for said holding means.

25. (New) The liquid processing apparatus according to claim 5, wherein said target object delivery mechanism is arranged inside of said housing.

26. (New) A liquid processing apparatus for applying a predetermined liquid processing to a target object to be processed, comprising:

a cylindrical process chamber for housing the target object; and

a liquid processing section for performing a liquid processing by supplying a predetermined process liquid to said target object while rotating the target object housed in the process chamber, wherein

said cylindrical process chamber is arranged within said liquid processing section;

said liquid processing section is arranged within a housing;

at least one first side wall panel forming said housing and positioned to face a side surface of said cylindrical process chamber has a first openable/closable window portion, or is detachable is detachable itself; and

it is possible to gain access to said liquid processing section from a side of said first side wall panel by detaching said first side wall panel or by opening said first window portion.

27. (New) A liquid processing apparatus for applying a predetermined liquid processing to a target object to be processed, comprising:

a container delivery section for delivering a container capable for housing said target object;

a liquid processing section including a process chamber for housing said target object, said liquid processing section performing the predetermined liquid processing the predetermined liquid processing to said target object transferred from said container delivery section by supplying a process liquid to said target object while rotating said target object housed in said process chamber;

a housing for housing said liquid processing section;
a detachable panel forming housing said and facing said container delivery section; and
at least one other detachable panel forming said housing perpendicular to said detachable panel.

28. (New) The liquid processing apparatus according to claim 27, wherein said process chamber includes a member for opening/closing a side face of said process chamber on the side face of said process chamber which faces said detachable panel, and wherein it is possible to gain access to the inner region of said process chamber from a side of said container delivery section by detaching said detachable panel and by moving said member to a predetermined position.

29. (New) The liquid processing apparatus according to claim 27, further comprising:
a target object delivery section being positioned below said liquid processing section and having a target object delivery mechanism driven in the vertical direction for delivering said target object to and from said liquid processing section;

a container relay section being interposed between said target object delivery section and said container delivery section and having a first container transfer mechanism for transferring said container to said target object delivery section thereby allowing said target object housed in said container to be delivered to said target object delivery mechanism; and

a second container transfer mechanism for a transferring said container and said container delivery section.

30. (New) The liquid processing apparatus according to claim 27, wherein:

said process chamber is slidable between a process position for applying the liquid processing to said target object and a predetermined retreat position; and

a slide mechanism for sliding said process chamber is joined to said process chamber by a screw, a pin or engagement thereby allowing said process chamber to be attached to or detached from said slide mechanism.

31. (New) The liquid processing apparatus according to claim 5, further comprising:

a container delivery section for performing the delivery of a container capable of housing said target object;

a container relay section being interposed between said housing and said container delivery section and having a first container transfer mechanism for transferring said container into said housing thereby allowing said target object housed in said container to be delivered to said target object delivery mechanism;

a second container transfer mechanism for transferring said container between said first container transfer mechanism and said container delivery section:

an open portion formed in a partition wall provided on the side of said container relay section in said housing for the transfer of said container between the inside of said housing and said container relay section; and

a shutter for opening/closing said open portion for transferring said container,

wherein said housing forms hermetic structure under the state that said shutter is closed thereby being substantially shielded from the outside.

32. (New) The liquid processing apparatus according to claim 8, further comprising:

a container delivery section for delivering a container capable of housing said target object;

a container relay section being interposed between said another housing and said container delivery section and having a first container transfer mechanism for transferring said container into said another housing thereby allowing said target object housed in said container to be delivered to said target object delivery mechanism;

a second container transfer mechanism for transferring said container transfer mechanism and said container delivery section;

a second open portion formed in a partition wall provided on the side of said container relay section in said another housing for transferring said container between the inside of said another housing and said container relay section; and

a second shutter for opening/closing said second open portion,

wherein each of said housing and said another housing forms a hermetic structure under the state that said first open portion is closed by said first shutter and said second open portion is closed by said second shutter thereby being substantially shielded from the outside.

33. (New) The liquid processing apparatus according to claim 18, wherein:

a housing includes a second side wall panel forming said housing and positioned to face an end face of said cylindrical process chamber, said second side panel being detachable or having a second openable/closeable window portion; and

it is possible to gain access to said liquid processing section from a side of the second side wall panel.

34. (New) The liquid processing apparatus according to claim 33, wherein:

said cylindrical process chamber further includes a member for opening/closing an end face of said cylindrical process chamber on the end face of said cylindrical process chamber which faces said second side wall; and

it is possible to gain access to the inside of said process chamber from the side of said second side wall panel by detaching said second side wall panel or by opening said second window portion, further, by moving said member to a predetermined position.

35. (New) The liquid processing apparatus according to claim 33, wherein said process chamber is slidable between a process position for applying the liquid processing to said object and a predetermined retreat position.